

WHAT IS CLAIMED IS:

1. A computer-assisted knee replacement apparatus, comprising:  
a storage medium for storing a knee replacement application which, when executed by a processor, displays a series of interface images for assisting a user with a unicondylar knee replacement procedure.
2. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to provide real-time knee implant location assistance to the user during the unicondylar knee replacement procedure.
3. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to provide real-time knee resection location assistance to the user during the unicondylar knee replacement procedure.
4. The apparatus of Claim 1, wherein the knee replacement application is adapted to display a virtual representation of a knee to the user for the unicondylar knee replacement procedure.
5. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire kinematic data associated with a tibial sclerotic bone path of a subject knee.
6. The apparatus of Claim 5, wherein the knee replacement application is adapted to determine a position for a femoral implant based on the tibial sclerotic bone path.
7. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire tibial and femoral anatomical data and determine an extension gap for a subject knee.
8. The apparatus of Claim 1, wherein the knee replacement application is adapted to display to the user a plurality of knee implant sizes for the unicondylar knee replacement procedure.

9. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire femoral anatomical data and determine a femoral resection plane for the unicondylar knee replacement procedure.

10. The apparatus of Claim 9, wherein the knee replacement application is adapted to cooperate with the tracking system to provide real-time alignment data of a resection guide corresponding to the determined femoral resection plane.

11. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire tibial anatomical data and determine a tibial resection plane for the unicondylar knee replacement procedure.

12. The apparatus of Claim 1, wherein the knee replacement application is adapted to determine a femoral burring requirement corresponding to a particular femoral implant of the unicondylar knee replacement procedure.

13. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to display a real-time burring indicator corresponding to an implant burring process of the unicondylar knee replacement procedure.

14. The apparatus of Claim 1, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire tibial anatomical data and determine a tibial implant size for a subject knee.

15. The apparatus of Claim 1, wherein the knee replacement application is adapted to determine a tibial implant burring requirement corresponding to a particular tibial implant for of the unicondylar knee replacement procedure.

16. The apparatus of Claim 1, wherein the knee replacement application is adapted to display an interface image requesting selection of either a right knee or a left knee for the unicondylar knee replacement procedure.

17. The apparatus of Claim 1, wherein the knee replacement application is adapted to display an interface image requesting the user to acquire anatomical data corresponding to a designated location on the subject knee.

18. The apparatus of Claim 1, wherein the knee replacement application is adapted to display an interface image requesting the user to acquire anatomical data corresponding to a designated location displayed on a virtual representation of a knee.

19. The apparatus of Claim 1, wherein the knee replacement application is adapted to display a virtual representation of a subject knee having a burring indicator overlayed thereon to assist the user with a knee burring implant preparation process.

20. A computer-assisted surgery system, comprising:

a display device; and

a knee replacement application executable by a processor and adapted to display on the display device a series of interface images to assist a user with a unicondylar knee replacement procedure.

21. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with a tracking system to provide real-time implant location assistance to the user during the unicondylar knee replacement procedure.

22. The system of Claim 20, wherein the knee replacement application is adapted to display a virtual representation of a subject knee on the display device for the unicondylar knee replacement procedure.

23. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire kinematic data associated with a tibial sclerotic bone path of a subject knee.

24. The system of Claim 23, wherein the knee replacement application is adapted to determine a position of a femoral implant based on the tibial sclerotic bone path.

25. The system of Claim 20, wherein the knee replacement application is adapted to display to the user a plurality of knee implant sizes for the unicondylar knee replacement procedure.

26. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire femoral anatomical data and determine femoral resection data for a femoral implant of the unicondylar knee replacement procedure.

27. The system of Claim 26, wherein the knee replacement application is adapted to cooperate with the tracking system to provide real-time alignment data of a resection guide corresponding to the determined femoral resection data.

28. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with the tracking system to acquire tibial anatomical data and determine tibial resection data for a tibial implant of the unicondylar knee replacement procedure.

29. The system of Claim 20, wherein the knee replacement application is adapted to determine a femoral burring requirement to accommodate a particular femoral implant of the unicondylar knee replacement procedure.

30. The system of Claim 20, wherein the knee replacement application is adapted to determine a tibial burring requirement to accommodate a particular tibial implant of the unicondylar knee replacement procedure.

31. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with a tracking system to provide a real-time burring indicator corresponding to an implant burring process of the unicondylar knee replacement procedure.

32. The system of Claim 20, wherein the knee replacement application is adapted to cooperate with a tracking system to acquire tibial anatomical data and determine a tibial implant size for a subject knee.